CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

NABL - Accredited Laboratory as per ISO / IEC-17025 :2005

T-2377

Job No.: CTCE/BBMP/KRIDL/W.No.13/CSR-10/477a/CEMENT/2017-18 Date: 30.10.2017

TEST REPORT ON CEMENT

*** Customer**	:	**Asst. Executive Engineer,** Shettyhalli Sub Division, BBMP, Bangalore.
*** Agency**	:	**Technical Manager (West),** KRIDL, Bangalore.
*** Name of Work**	:	Construction of RCC drains and footpath in shooting building road at Ravindra Nagara in Ward No.13, Shettyhalli Sub Division, BBMP, Bangalore.
*** Reference**	:	BBMP/EE/DD/WO/56/2017-18 Dated: 24.10.2017
*** Sample ID**	:	Cement – Sample 2
Sample Received on	:	28.10.2017
Period of Testing	:	28.10.2017 to 30.10.2017

The results of the tests conducted on the cement sample are as follows:

Sl. No	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 8112-2013
1	Standard Consistency	IS-4031 (Part -4) 1988 (RA-2014)	30.00 %	-
2	a) Initial Setting Time	IS-4031 (Part -5) 1988 (RA-2014)	180 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part -5) 1988 (RA-2014)	485 Minutes	Not More than 600 Minutes
3	Soundness by Le Chartlier Method	IS-4031 (Part-3) 1988 (RA-2014)	1 mm	Not more than 10mm

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VIDYARANI P.K.
Technical Manager

A/c - 13

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
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ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ
ಎಸ್.ಎಂ. ರಸ್ತೆ, ರವೀಂದ್ರನಗರ, ಬೆಂಗಳೂರು

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Job No.: CTCE/BBMP/KRIDL/W.No.13/Steel/2017-18 02.11.2017

TEST REPORT ON REINFORCEMENT STEEL

* Customer	:	**Asst. Executive Engineer,** Shettyhalli Sub Division, BBMP, Bangalore.
* Agency	:	**Technical Manager (West),** KRIDL, Bangalore.
* Name of work	:	Construction of RCC drains and footpath in shooting building road at Ravindra Nagara in Ward No.13, Shettyhalli Sub Division, BBMP, Bangalore.
* Reference	:	BBMP/EE/DD/WO/56/2017-18 Dated: 24.10.2017
* Samples ID	:	10 mm Bar
Technical Reference	:	IS: 1786-2008 (RA-2013)
Date of Testing	:	02.11.2017

Sl No	Nominal size (dia) (mm)	Mass per metre (Kg/mtr)	TENSILE STRENGTH			Bend Test	Rebend Test
			0.20% proof stress/Yield stress N/mm2	Tensile strength (Ultimate stress) N/mm2	Elongation percent gauge length		
1	10	0.62	518	559	13.35	O.K	O.K

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Basaveshwaranagar, Bangalore-560 079.

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T-2377

Job No.: CTCE/BBMP/KRIDL/W.No.13/CSR-10/477a/Cube/2017-18 05.12.2017

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

* Customer	:	**Asst. Executive Engineer,** Shettyhalli Sub Division, BBMP, Bangalore.
* Agency	:	**Technical Manager (West),** KRIDL, Bangalore.
* Name of the work	:	Construction of RCC drains and footpath in shooting building road at Ravindra Nagara in Ward No.13, Shettyhalli Sub Division, BBMP, Bangalore.
* Reference	:	BBMP/EE/DD/WO/56/2017-18 Dated: 24.10.2017
* Sample ID	:	RCC Drain Concrete
Technical Reference	:	IS: 516-1959 (RA-2013)
Size of cubes	:	150mmx150mmx150mm
Cross Sectional Area	:	22500 mm^2
* Grade of Concrete	:	M_{20}
Compressive Strength as on	:	28^{th} day
Sample Received on	:	05.12.2017

Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	07.11.2017	05.12.2017	8.105	493.5	21.93
2	07.11.2017	05.12.2017	8.287	504.4	22.42
3	07.11.2017	05.12.2017	8.315	513.2	22.81

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ಎಸ್.ಎಂ. ರಸ್ತೆ, ರಮಣಶ್ರೀನಗರ, ಬೆಂಗಳೂರು

VIDYARANI P.K.
Technical Manager

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Job No.: CTCE/BBMP/KRIDL/W.No.13/CSR-10/477a/Cube/2017-18 05.12.2017

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

* Customer	:	**Asst. Executive Engineer,** Shettyhalli Sub Division, BBMP, Bangalore.
* Agency	:	**Technical Manager (West),** KRIDL, Bangalore.
* Name of the work	:	Construction of RCC drains and footpath in shooting building road at Ravindra Nagara in Ward No.13, Shettyhalli Sub Division, BBMP, Bangalore.
* Reference	:	BBMP/EE/DD/WO/56/2017-18 Dated: 24.10.2017
* Sample ID	:	RCC Drain Concrete
Technical Reference	:	IS: 516-1959 (RA-2013)
Size of cubes	:	150mmx150mmx150mm
Cross Sectional Area	:	22500 mm^2
* Grade of Concrete	:	M_{20}
Compressive Strength as on	:	28^{th} day
Sample Received on	:	05.12.2017

Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	07.11.2017	05.12.2017	8.159	475.3	21.12
2	07.11.2017	05.12.2017	8.296	493.2	21.92
3	07.11.2017	05.12.2017	8.315	508.4	22.60

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Job No.: CTCE/BBMP/KRIDL/W.No.13/CSR-10/477a/Cube/2017-18 05.12.2017

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

* Customer	:	**Asst. Executive Engineer,** Shettyhalli Sub Division, BBMP, Bangalore.
* Agency	:	**Technical Manager (West),** KRIDL, Bangalore.
* Name of the work	:	Construction of RCC drains and footpath in shooting building road at Ravindra Nagara in Ward No.13, Shettyhalli Sub Division, BBMP, Bangalore.
* Reference	:	BBMP/EE/DD/WO/56/2017-18 Dated: 24.10.2017
* Sample ID	:	RCC Drain Concrete
Technical Reference	:	IS: 516-1959 (RA-2013)
Size of cubes	:	150mmx150mmx150mm
Cross Sectional Area	:	22500 mm^2
* Grade of Concrete	:	M_{20}
Compressive Strength as on	:	28^{th} day
Sample Received on	:	05.12.2017

Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	07.11.2017	05.12.2017	8.155	475.5	21.13
2	07.11.2017	05.12.2017	8.210	506.5	22.51
3	07.11.2017	05.12.2017	8.309	518.2	23.03

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Job No.: CTCE/BBMP/KRIDL/W.No.13/CSR-10/477a/SAND-Gradation/2017-18 30.10.2017

TEST REPORT ON SIEVE ANALYSIS OF FINE AGGREGATES

* Customer	: **Asst. Executive Engineer,** Shettyhalli Sub Division, BBMP, Bangalore.
* Agency	: **Technical Manager (West),** KRIDL, Bangalore.
* Name of Work	: Construction of RCC drains and footpath in shooting building road at Ravindra Nagara in Ward No.13, Shettyhalli Sub Division, BBMP, Bangalore.
* Reference	: BBMP/EE/DD/WO/56/2017-18 Dated: 24.10.2017
* Sample ID	: Fine Aggregates – Sample 2
Technical Reference	: IS : 2386 (Part 1) - 1963 (RA-2011)
Sample Received On	: 28.10.2017
Date of Testing	: 30.10.2017

Total Wt. of Aggregates in gms = **1000**

IS Sieve Size in mm	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA- 2011)			
		Zone-I	Zone-II	Zone-III	Zone-IV
10	100	100	100	100	100
4.75	97.10	90-100	90-100	90-100	95-100
2.36	78.10	60-95	75-100	85-100	95-100
1.18	56.50	30-70	55-90	75-100	90-100
600 Micron	36.00	15-34	35-59	60-79	80-100
300 Micron	23.40	5-20	8-30	12-40	15-50
150 Micron	5.40	0-10	0-10	0-10	0-15

* Information is furnished by the Customer/Representative

Remarks : This sample is under Zone-II specific limits.

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VIDYARANI P.K.
Technical Manager

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A6-13

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Job No.: CTCE/BBMP/KRIDL/W.No.13/CSR-10/477a/AGG/GR/2017-18 30.10.2017

TEST REPORT ON SIEVE ANALYSIS OF COARSE AGGREGATES

* Customer	:	**Asst. Executive Engineer,** Shettyhalli Sub Division, BBMP, Bangalore.
* Agency	:	**Technical Manager (West),** KRIDL, Bangalore.
* Name of Work	:	Construction of RCC drains and footpath in shooting building road at Ravindra Nagara in Ward No.13, Shettyhalli Sub Division, BBMP, Bangalore.
* Reference	:	BBMP/EE/DD/WO/56/2017-18 Dated: 24.10.2017
* Sample ID	:	Coarse Aggregates (40mm) – Sample 2
Technical Reference	:	IS : 2386 (Part 1) -1963 (RA-2011)
Sample Received on	:	28.10.2017
Date of Testing	:	30.10.2017

Total Wt. of Aggregates in gms= **5000**

IS Sieve Size in mm	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA- 2011)	
		Graded	Single Sized
80	100	100	-
63	100	-	100
40	97.60	95-100	85-100
20	37.82	30-70	0-20
10	17.42	10-35	0-5
4.75	3.72	0-5	-

* Information is furnished by the Customer/Representative

Remarks : This sample is under graded specific limits.

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Technical Manager

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Job No.: CTCE/BBMP/KRIDL/W.No.13/Steel/2017-18 02.11.2017

TEST REPORT ON REINFORCEMENT STEEL

* Customer	:	**Asst. Executive Engineer,** Shettyhalli Sub Division, BBMP, Bangalore.
* Agency	:	**Technical Manager (West),** KRIDL, Bangalore.
* Name of work	:	Construction of RCC drains and footpath in shooting building road at Ravindra Nagara in Ward No.13, Shettyhalli Sub Division, BBMP, Bangalore.
* Reference	:	BBMP/EE/DD/WO/56/2017-18 Dated: 24.10.2017
* Samples ID	:	8mm Bar
Technical Reference	:	IS: 1786-2008 (RA-2013)
Date of Testing	:	02.11.2017

Sl No	Nominal size (dia) (mm)	Mass per metre (Kg/mtr)	TENSILE STRENGTH			Bend Test	Rebend Test
			0.20% proof stress/Yield stress N/mm2	Tensile strength (Ultimate stress) N/mm2	Elongation percent gauge length		
1	8	0.39	514	555	13.1	O.K	O.K

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